

LAWRENCE LIVERMORE

REPORT

A weekly collection of the scientific and technological achievements from Lawrence Livermore National Laboratory: Jan. 28-Feb. 1, 2008. LLNL is managed by Lawrence Livermore National Security, LLC, for the U.S. Department of Energy's National Nuclear Security Administration.



Lawrence Livermore National Laboratory granted approval to operate state-of-the-art biosafety facility
Lawrence Livermore National Laboratory has been granted approval to begin operating its new biosafety laboratory, following the completion and release to the public of the final environmental documents by the U.S. Department of Energy (DOE), National Nuclear Safety Administration, Livermore Site Office. The Biosafety Level 3 (BSL3) facility, the first of its kind within the Department of Energy complex, will assist in protecting people from the threat of bioterrorism as well as allow for research aimed at detecting and understanding other public health threats that are facing our nation today.

For the press release

http://www-envirinfo.llnl.gov/BSL-3_EA_Press_Release_Revised_28Jan08.pdf

Humans are cause of diminishing water flow in the West

The Rocky Mountains have warmed by 2 degrees Fahrenheit. The snowpack in the Sierras has dwindled by 20 percent and the temperatures there have heated up by 1.7 degrees Fahrenheit. All could lead to dire consequences for the water supply in the Western United States, including California.

Experts have long noted that water flow in the West has decreased for the last 20 to 30 years, but had never explained why it was happening. Until now. Scientists from Lawrence Livermore National Laboratory's Program for Climate Model Diagnosis and Intercomparison, in collaboration with Scripps Institution of Oceanography, have pinpointed the cause of that diminishing water flow on a regional scale: humans. The research appears in the Jan. 31 online edition of Science Express. The findings also were presented at last year's annual fall meeting of the American Geophysical Union.

For the press release, see https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-01-07.html

Stardust upends comet theory



By John Johnson JR
LA Times

New research is challenging the long-held position that comets and asteroids are as different as lions and lemurs. The latest analysis of material from comet 81P/Wild 2 suggests that some comets are very asteroidlike and, presumably, vice versa. "This is a wake-up call that small bodies in the solar system don't necessarily come in two flavors," said researcher Hope Ishii, a physicist at the Lawrence Livermore National Laboratory. "Instead, it's more of a continuum."

The new research, published in the journal *Science*, contains the latest results from NASA's Stardust spacecraft, which flew through the tail of the comet and landed in the Utah desert in 2004. Stardust, managed by the Jet Propulsion Laboratory in La Cañada Flintridge, was the first spacecraft to return to Earth carrying comet dust. Its initial results, released in late 2006, showed what scientists at the time called a "zoo" of materials, some of which came from the inner solar system where asteroids originated. As research into the comet dust samples has continued, Ishii said, a picture is emerging of a body that not only looks asteroidlike, but is missing markers from the outer solar system, the home of most comets.

For the complete story: Los Angeles Times: <<http://www.latimes.com/news/printedition/asection/la-sci-stardust25jan25,1,515489.story>>

For the press release
<https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-01-05.html>

Also:

Cosmos: <<http://www.cosmosmagazine.com/node/1825>> New Scientist:
<<http://space.newscientist.com/article/dn13224-comet-samples-are-surprisingly-asteroidlike.html>>

San Francisco Chronicle: <<http://www.sfgate.com/cgi-bin/article.cgi?file=/c/a/2008/01/25/BAGCUL5HS.DTL>>

Science:<<http://www.sciencemag.org/cgi/content/full/319/5862/401a>>

Science Daily: <http://www.sciencedaily.com/releases/2008/01/080124161617.htm>

LLNL receives top score on Organization for Prohibition of Chemical Weapons report

For the fifth straight year, the Laboratory has retained its certification as a facility that can analyze samples collected during inspections under the Chemical Weapons Convention (CWC). The Laboratory received its original certification in 2003 and currently is the only facility in the United States that is accredited to accept samples and analyze them for the possible presence of chemical weapons under the CWC. Notification of the

continued certification was received in a faxed letter from the Organization for the Prohibition of Chemical Weapons, or OPCW, which is located in The Hague, Netherlands. The OPCW is responsible for implementing the Chemical Weapons Convention, which has been ratified and put into force by 183 countries, including the United States. Under the treaty, the development, production, acquisition, stockpiling and use of chemical weapons is banned, as is the transfer of chemical-weapon-related technologies. Livermore's OPCW work is carried out by the Forensic Science Center (FSC) as part of the Global Security Principal Directorate's Nonproliferation Program. "Our OPCW work provides an important international security capability by helping to verify and ensure compliance with the Chemical Weapons Convention," said Mona Dreicer, deputy director for the Nonproliferation Program.

For the complete story: <https://newsline.llnl.gov/articles/2008/feb/02.01.08 OPCW.php>

Lab scientist elected to American Physical Society California section post

Karl van Bibber, a chief scientist at Lawrence Livermore National Laboratory, has been elected vice chair of the American Physical Society's California Section. A self-professed "science junkie," he said he looks forward to having a broader impact in issues such as science literacy and awareness.

For the press release, see the Web: https://publicaffairs.llnl.gov/news/news_releases/2008/NR-08-01-06.html

U.S. Navy officials visit Laboratory

Deputy Undersecretary of the Navy Marshall Billingslea and Senior Director for Intelligence Wendy Kay visited the Laboratory this week. The duo heard briefings on global security, nonproliferation, national security challenges, Advanced Simulation and Computing and went on a tour of the National Ignition Facility. Billingslea is the senior adviser to the Secretary of the Navy and deals with a wide range of policy and intelligence matters. Kay is the senior adviser to the Deputy Undersecretary of the Navy.